Further Evolution of the ACC/AHA Clinical Practice Guideline Recommendation Classification System

A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines

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For 3 decades, the American College of Cardiology (ACC) and the American Heart Association (AHA) have jointly developed clinical practice guidelines (CPGs) in an effort to align patient care with scientific evidence (1). The "2015 ACC/AHA/HRS Guideline on the Management of Patients With Supraventricular Tachycardia" (2) introduces the latest recommendation classification system (Table 1), which has continued to evolve. The present brief commentary summarizes and explains changes incorporated in the current scheme. More detailed reviews of the evolution of ACC/AHA guideline methodology have been published (1, 3-5).

Classes of Recommendation and Levels of Evidence

Guideline recommendations are categorized by the Class of Recommendation (COR) and Level of Evidence (LOE). The COR reflects the magnitude of benefit over risk and corresponds to the strength of the recommendation. Class I recommendations are strong and indicate that the treatment, procedure, or intervention is useful and effective and should be performed or administered for most patients under most circumstances. Class II recommendations are weaker, denoting a lower degree of benefit in proportion to risk. Benefit is generally greater for Class IIa (moderate) recommendations and smaller for Class IIb (weak) recommendations, for which benefit only marginally exceeds risk. A COR of IIb suggests that implementation should be selective and based on careful consideration of individual patient factors and, for invasive procedures, available expertise. Class III is assigned when actions are specifically not recommended, either because studies have found no evidence of benefit or because the intervention causes harm.

The LOE denotes the confidence in or certainty of the evidence supporting the recommendation, based on the type, size, quality, and consistency of pertinent research findings. In general, for pharmacological treatments or therapeutic procedures, data from randomized trials provide a higher LOE than do observational or retrospective studies, but other considerations apply to recommendations involving diagnostic testing, population-based interventions, or lifestyle modifications. High-quality, concordant evidence from more than one adequately powered randomized trial, meta-analyses of high-quality trials, or randomized trial data corroborated by high-quality registry or practice-based studies qualifies as LOE A. Moderate-quality or less convincing evidence, based on one or more trials, meta-analyses of moderate-quality studies, or data derived exclusively from registries or other sources that have not been externally validated, are assigned LOE B and are now further delineated according to whether the evidence derives from randomized (B-R) or nonrandomized studies (B-NR). When firm scientific support for a recommendation is not available, the evidence is designated as LOE C. There is now a new subcategorization of lower-quality evidence, assigned either because data are limited (C-LD) (i.e., based on physiological preclinical studies, case reports, or studies with methodological deficiencies in design or

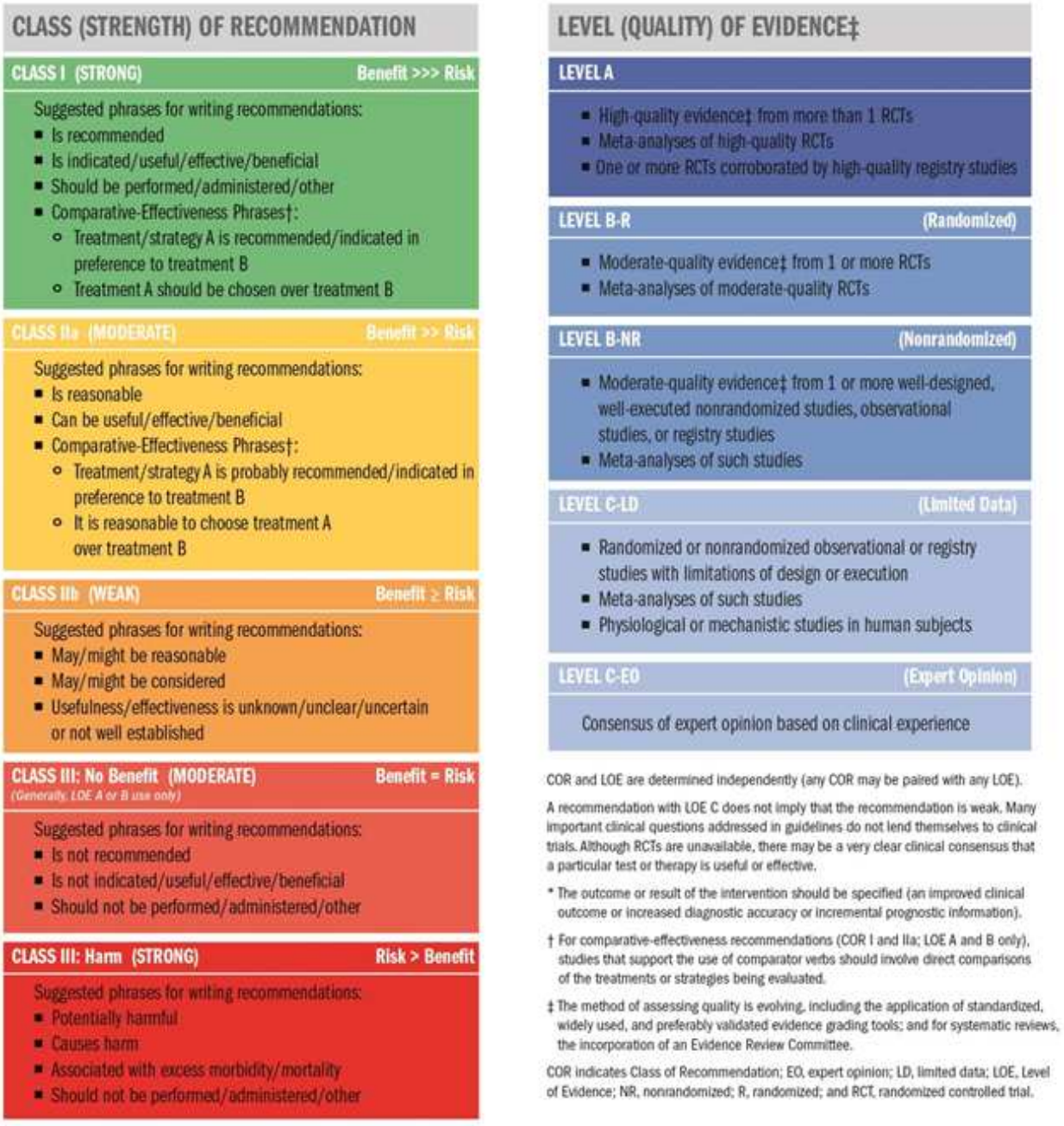
execution) or because the recommendation is based on clinical experience and a consensus of expert opinion (C-EO).

The COR and LOE are assessed independently. Basing a recommendation on LOE C does not imply that the recommendation is weak. In some cases, clinical benefit is self-evident, and the intervention is unlikely to undergo randomized study. Where available data are weak, conflicting, or absent, recommendations based on this relatively low level of evidence may provide guidance for patient care when clinicians need it most (3). Nevertheless, because in the past a relatively high proportion of recommendations were based on LOE C and a modest percentage were based on LOE A (6), greater emphasis is now placed on formulating recommendations supported by higher-quality evidence and limiting those based on lower-quality evidence.

Evolution in Context

These modifications align with recommendations promulgated by the Institute of Medicine in 2011 (7, 8) and facilitate comparison of the strength (or COR) and quality (or LOE) with categories used by other guideline developers. The new scheme is intended mainly to increase the granularity and precision of the ACC/AHA system, while broadly retaining the COR and LOE categories familiar to readers of both U.S. and European cardiovascular guidelines. The changes have been implemented as part of the continuous evolution of guideline development to assure comprehensive, objective assessment of all available evidence and delivery of recommendations in a uniform format that is most useful at the point of care. Among the many remaining challenges are the development of more objective and standardized criteria for assessment of the quality of evidence, incorporation of cost and health economic methodology into guidelines, formulation of more efficient processes for revising and updating recommendations as new evidence emerges, and creation of tools to integrate context-sensitive guideline recommendations with electronic health records (3, 9). The structured system for classifying the strength of clinical recommendations and quality of the evidence supporting them spans all of these ongoing initiatives and remains at the heart of the guidelines.

Table 1. ACC/AHA Recommendation System: Applying Class of Recommendation and Level of Evidence to Clinical Strategies, Interventions, Treatments, or Diagnostic Testing in Patient Care* (Updated August 2015)



Comprehensive disclosure information for the Task Force is available at http://www.acc.org/guidelines/about-guidelines-and-clinical-documents/guidelines-and-documents-task-forces.

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